



**California Environmental Protection Agency
Department of Toxic Substances Control**

**DRAFT HAZARDOUS WASTE FACILITY
POST-CLOSURE PERMIT**

Facility Name and Location:

United Technologies Corporation
Pratt & Whitney Rocketdyne
600 Metcalf Road
San Jose, California 95138-9601

Permit Number: 06-BRK-16

Facility EPA ID # CAD 001705235

Effective Date:

Expiration Date:

Facility Owner:

United Technologies Corporation
United Technologies Building
Hartford, Connecticut 06101

Facility Operator

United Technologies Corporation
Pratt & Whitney Rocketdyne
600 Metcalf Road
San Jose, California 95138-9601

Pursuant to Section 25200 of the California Health and Safety Code, this Resource Conservation and Recovery Act (RCRA) equivalent Hazardous Waste Facility Post-Closure Permit is hereby issued to United Technologies Corporation, Pratt & Whitney Rocketdyne. The issuance of this Permit is subject to the conditions set forth in Attachment A and the Post-Closure Permit Application. The Permit consists of 19 pages including the cover page and Attachment A.

Mohinder S. Sandhu, P.E., Chief
Standardized Permitting and Corrective Action Branch

Date

ATTACHMENT A

**HAZARDOUS WASTE FACILITY POST-CLOSURE PERMIT
FOR
UNITED TECHNOLOGIES CORPORATION
PRATT & WHITNEY ROCKETDYNE**

TABLE OF CONTENTS

PART I. DEFINITIONS	4
PART II. DESCRIPTION OF THE FACILITY AND OWNERSHIP	5
1. OWNER	5
2. OPERATOR	5
3. LOCATION	5
4. DESCRIPTION	5
5. FACILITY SIZE AND TYPE FOR FEES	5
PART III. GENERAL CONDITIONS	6
1. PERMIT APPLICATION DOCUMENTS	6
2. EFFECT OF PERMIT	6
3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)	7
4. ENVIRONMENTAL MONITORING	7
5. CONDITIONS APPLICABLE TO ALL PERMITS	8
6. MODIFICATIONS	8
PART IV. PERMITTED UNITS AND ACTIVITIES	10
1. FORMER SURFACE IMPOUNDMENT 0250	10
2. FORMER SURFACE IMPOUNDMENT 0635	11
3. FORMER SURFACE IMPOUNDMENT 0706	12
PART V. SPECIAL CONDITIONS WHICH APPLY TO THE ENTIRE FACILITY	13
PART VI. CORRECTIVE ACTION	14
PART VII. SCHEDULE OF COMPLIANCE	15
FIGURE 1. SITE LOCATION MAP	16
FIGURE 2. UNIT LOCATION MAP	17
TABLE 1. GROUNDWATER / SURFACE WATER CLEANUP GOALS	18

TABLE 2.	RCRA POST-CLOSURE GROUNDWATER MONITORING PLAN (FREQUENCIES AND TEST METHODS)	19
----------	---	----

PART I. DEFINITIONS

1. For the purposes of this permit, terms used herein shall have the same meaning as those in California Code of Regulations, title 22, unless this permit specifically provides otherwise. Where terms are not defined in the regulations or this permit, the meaning associated with such terms shall be defined by standard dictionary reference or the generally accepted scientific or industrial meaning of the term.
2. "Part" refers to a part (section) of this permit.
3. "DTSC" as used in this Permit refers to the California Environmental Protection Agency, Department of Toxic Substances Control.
4. "Permittee" as used in this Permit refers to the Owner and/or Operator.
5. "RCRA" as used in this Permit refers to the Resource Conservation and Recovery Act.
6. "Approved Application" as used in this Permit refers Post-Closure Permit Application approved by DTSC.
7. "Facility" as used in this Permit means the hazardous waste units and all associated property located at 600 Metcalf Road, San Jose, California.
8. "CAM 17 Metals" as used in this Permit refers to metals identified in California Code of Regulations, title 22, section 66261.24 (a) (2) (A) with the exception of asbestos and fluoride salts. These metals, formerly listed in the California Administrative Manual, specifically include antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium and zinc.
9. "RWQCB" refers to the Regional Water Quality Control Board, which in this case is the San Francisco Bay RWQCB.
10. Unless explicitly stated otherwise, all references to items in this Permit shall refer only to items occurring within the same Part.

PART II. DESCRIPTION OF THE FACILITY AND OWNERSHIP

1. OWNER

The Owner of the facility is the United Technologies Corporation (UTC), located in the United Technologies Building in Hartford, Connecticut (hereafter "Owner").

2. OPERATOR

The Operator is a subsidiary of UTC known as United Technologies Corporation, Pratt & Whitney Rocketdyne.

3. LOCATION

The UTC, Pratt & Whitney Rocketdyne facility is located on 600 Metcalf Road, about 14 miles southeast of downtown San Jose. The facility encompasses approximately 5,113 acres in the Santa Clara County foothills (Figure 1 - Site Location Map).

4. DESCRIPTION

The UTC facility developed, manufactured and tested space and missile propulsion systems. Production of solid propellant ceased in August 2003. All other manufacturing operations ended in December 2004.

The three former hazardous waste storage and treatment units that are subject to this Permit are:

The former surface impoundments identified as 0250, 0635 and 0706. These surface impoundments were used to hold metal finishing process wastewaters, production plant wastewater containing waste polymers, and wash waters from hoppers that contained solvents and ammonium perchlorate. These three surface impoundments operated under a hazardous waste facility permit issued September 26, 1981. All three former surface impoundments were certified closed on November 25, 1991 by DTSC. For a location map, see Figure 2.

5. FACILITY SIZE AND TYPE FOR FEES

The Facility is categorized as a large post-closure facility for purposes of Health and Safety Code, section 25205.19.

PART III. GENERAL CONDITIONS

1. PERMIT APPLICATION DOCUMENTS

The Part A dated October 14, 2004 and Part B Post-Closure Permit Application dated September 22, 2006 are considered the approved permit application (Approved Application) and made a part of this Permit by reference.

2. EFFECT OF PERMIT

- (a) The Permittee shall comply with the provisions of the California Health and Safety Code, and division 4.5 of the California Code of Regulations, title 22. The issuance of this Permit by DTSC does not release the Permittee from any liability or duty imposed by federal or state statutes or regulations or local ordinances, except the obligation to obtain this Permit. The Permittee shall obtain the permits required by other governmental agencies, including but not limited to, the applicable land use planning, zoning, hazardous waste, air quality, water quality, and solid waste management laws for the construction and/or operation of the post-closure facility.
- (b) The Permittee is authorized to monitor and maintain the post-closure facility in accordance with the conditions of this Permit and the Approved Application. Any treatment or storage of hazardous wastes not specifically authorized in this Permit or described in the Approved Application is strictly prohibited.
- (c) Compliance with the terms of this Permit does not constitute a defense to any action brought under any other law governing protection of public health or the environment, including, but not limited to, one brought for any imminent and substantial endangerment to human health or the environment.
- (d) DTSC's issuance of this Permit does not prevent DTSC from adopting or amending regulations that impose additional or more stringent requirements than those in existence at the time this Permit is issued and does not prevent the enforcement of these requirements against the Permittee. Failure to comply with any term or condition set forth in the Permit in the time or manner specified herein will subject the Permittee to possible enforcement action including but not limited to penalties pursuant to Health and Safety Code section 25187.
- (e) In addition, failure to submit any information required in connection with the Permit, or falsification and/or misrepresentation of any submitted

information, is grounds for revocation of this Permit (California Code of Regulations, title 22, section 66270.43).

- (f) In case of conflicts between the Approved Application and the Permit, the Permit conditions shall take precedence.
- (g) This Permit includes and incorporates by reference all conditions of the Site Cleanup Requirements issued by the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB), contained in Order # R2-2004-0032 and any subsequent approved modifications or Orders issued by the RWQCB to the Facility, and all conditions imposed pursuant to section 13227 of the Water Code.

3. COMPLIANCE WITH CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

A Negative Declaration for this project has been prepared in accordance with the requirements of Public Resources Code section 21000 et seq. and the CEQA Guidelines, California Code of Regulations, title 14, section 15070 et seq.

4. ENVIRONMENTAL MONITORING

- (a) For the purpose of California Code of Regulations, title 22, section 66264.91(b), the elements of the Groundwater Monitoring and Response Program are those described in *2006 Environmental Monitoring Program Plan*, or the most recent *Environmental Monitoring Program Plan* approved by DTSC.
- (b) For the purpose of California Code of Regulations, title 22, section 66264.92, the Water Quality Protection Standard is as described in Table 1 and Table 2 of this Permit or as described in latest approved Order issued by RWQCB to the Facility.
- (c) For the purpose of California Code of Regulations, title 22, section 66264.93, the Constituents of Concern are as described in Table 1 of this Permit or as described in latest approved Order issued by RWQCB to the Facility.
- (d) For the purpose of California Code of Regulations, title 22, section 66264.94, the Concentration Limits are as described in Table of this Permit or as described in latest approved Order issued by RWQCB to the Facility.
- (e) For the purpose of California Code of Regulations, title 22, section 66264.95, the Monitoring Points and Points of Compliance for each regulated unit are as described in Table 2 this Permit.

- (f) For the purpose of California Code of Regulations, title 22, section 66264.96, the Compliance Period for each regulated unit consists of a period of time extending until the facility can demonstrate that the regulated units have been in compliance with the Water Quality Protection Standard for a period of three years.
- (g) For the purpose of California Code of Regulations, title 22, section 66270.31, the requirements for recording and reporting of monitoring results are described in *2006 Environmental Monitoring Program Plan*, or the most recent *Environmental Monitoring Program Plan* approved by DTSC. .
- (h) For the purpose of California Code of Regulations, title 22, section 66264.144, the cost estimate for post-closure care is described in Section 14.0 of the Approved Application.
- (i) For the purpose of California Code of Regulations, title 22, section 66264.145, the Financial Assurance for post-closure care is described in Section 15.0 of the Approved Application.
- (j) For the purpose of California Code of Regulations, title 22, section 66264.228, the closure and post-closure care by maintenance of a cover is not applicable to the three surface impoundments as those units have been excavated and backfilled with clean soil.

5. CONDITIONS APPLICABLE TO ALL PERMITS

California Code of Regulations, title 22, section 66270.30, Conditions Applicable to All Permits, is incorporated by this reference. All reports, workplans shall be submitted to the following persons:

Branch Chief
Standardized Permitting and Corrective Action Branch
Department of Toxic Substances Control
700 Heinz Avenue
Berkeley, California 94710

Chief, Groundwater Protection Division
California Regional Water Quality Control Board
San Francisco Bay Region
1515 Clay Street, Suite 1400
Oakland, California 94612

6. MODIFICATIONS

- a) The Permittee must request and obtain a permit modification to revise any portion of this Permit. To request such a revision, the Permittee must comply with the procedures for permit modifications set forth in California Code of Regulations, title 22, section 66270.42.
- b) If at any time DTSC determines that modification of any part of this Permit is necessary, DTSC may initiate a modification in accordance with the procedures found in California Code of Regulations, title 22, section 66270.41.

PART IV - PERMITTED UNITS AND ACTIVITIES

This Permit authorizes post-closure care of the closed permitted units listed below. The Permittee shall not treat, store or otherwise manage hazardous waste in any of these units unless otherwise specified in this Part IV

UNIT #1

Former Surface Impoundment 0250

LOCATION:

Former Surface Impoundment 0250 is located near Shingle Valley Road in Upper Shingle Valley (See Figure 2 for a location map.).

ACTIVITY TYPE:

Groundwater monitoring will be conducted in accordance with the frequencies and test methods specified in Table 2 of this Permit.

ACTIVITY DESCRIPTION:

In 1986, the unit was closed by excavation and backfilling with clean fill material. The area was paved with an asphaltic concrete cover. The existing covered area is currently being used for parking. DTSC certified the unit closed on November 25, 1991. Although UTC removed the liquids, sludges and the impoundment itself, this unit is not eligible for clean-closure status because it cannot be verified that a release from the former surface impoundment did not contribute to the regional groundwater contamination in the vicinity of the unit. Therefore, groundwater monitoring will be conducted for the three groundwater monitoring wells designated as RCRA wells and for the contaminants of concern listed in Table 2 of this Permit.

PHYSICAL DESCRIPTION OF FORMER SURFACE IMPOUNDMENT 0250:

Former Surface Impoundment 0250 was a bowl-shaped structure used to hold metal finishing process wastewater from Station 0250. The structure was approximately 65 feet in diameter at the top of the rim and constructed of reinforced concrete. It was 6 feet in depth with a 50-foot diameter flat base. In October 1985, the reinforced concrete portions of the impoundment were removed.

UNIT SPECIFIC CONDITIONS:

1. The Permittee shall conduct groundwater monitoring as specified in Part VII, Schedule of Compliance.
2. The Permittee shall remove contaminants from the groundwater to approved cleanup levels, as specified in the RWCQB Order (see Part VII, Schedule of Compliance).

UNIT #2
FORMER SURFACE IMPOUNDMENT 0635

LOCATION:

Former Surface Impoundment 0635 was located on Mixer Road in Mixer Valley (See Figure 2 for a location map.).

ACTIVITY TYPE:

Groundwater monitoring will be conducted in accordance with the frequencies and test methods specified in Table 2 of this Permit.

ACTIVITY DESCRIPTION:

The unit was emptied in June 1983 and prepared for closure in 1985. The impoundment was closed by excavation, backfilled with clean fill material and capped in March 1988. Surface Impoundment 0635 was certified closed on November 25, 1991. Although UTC removed the liquids, sludges and the impoundment itself, this unit is not eligible for clean-closure status because it cannot be verified that a release from the former surface impoundment did not contribute to the regional groundwater contamination in the vicinity of the unit. Therefore, groundwater monitoring will be conducted for the three groundwater monitoring wells designated as RCRA wells and for the contaminants of concern listed in Table 2 of this Permit.

PHYSICAL DESCRIPTION OF FORMER SURFACE IMPOUNDMENT 0635:

Former Surface Impoundment 0635, was a rectangular earthen berm structure approximately 100 feet long, 60 feet wide and 5 feet deep, with a Hypalon liner. The unit was capped with asphalt in September, 1991.

UNIT SPECIFIC CONDITIONS:

1. The Permittee shall conduct groundwater monitoring as specified in Part VII, Schedule of Compliance.
2. The Permittee shall remove contaminants from the groundwater to approved cleanup levels as specified in the RWCQB Order (see Part VII, Schedule of Compliance).

UNIT #3
Former Surface Impoundment 0706

LOCATION:

Former Surface Impoundment 0706 was located on Oxidizer Road in Mixer Valley (See Figure 2 for a location map.).

ACTIVITY TYPE:

Groundwater monitoring will be conducted in accordance with the frequencies and test methods specified in Table 2 of this Permit.

ACTIVITY DESCRIPTION:

The unit was used for washing out empty hoppers containing residual ammonium perchlorate and for evaporating waste solvents. The surface impoundment received waste solvents, paint sludges, and ammonium perchlorate wash water. Use of Surface Impoundment 0706 was discontinued in late 1985. The unit was capped with a concrete cover in September, 1991, and certified closed on November 25, 1991. Although UTC removed the liquids, sludges and the impoundment itself, this unit is not eligible for clean-closure status because it cannot be verified that a release from the former surface impoundment did not contribute to the regional groundwater contamination in the vicinity of the unit

PHYSICAL DESCRIPTION OF FORMER SURFACE IMPOUNDMENT 0706:

Former Surface Impoundment 0706 was a concrete subgrade impoundment constructed in 1965. The unit was 61 feet 4 inches long, 22 feet wide, 4 feet 6 inches deep and divided into four cells. The two cells nearest Oxidizer Road were designated for wash water of empty hoppers that contained residual powdered ammonium perchlorate. The other two cells were used for storage and evaporation of waste solvents and paint sludge. Therefore, groundwater monitoring will be conducted for the three groundwater monitoring wells designated as RCRA wells and for the contaminants of concern listed in Table 2 of this Permit.

UNIT SPECIFIC CONDITIONS:

1. The Permittee shall conduct groundwater monitoring as specified (see Part VII, Schedule of Compliance).
2. The Permittee shall remove contaminants from the groundwater to approved levels, as specified in the RWCQB Order (see Part VII, Schedule of Compliance).

PART V – SPECIAL CONDITIONS WHICH APPLY TO THE ENTIRE FACILITY

1. The Permittee shall conduct groundwater monitoring sampling according to the schedules specified in Table 2 of the Permit. The Permittee shall compile the results of groundwater monitoring activities into an Annual Report for submission to DTSC. The Annual Report shall be submitted by March 1 of each year. The Permittee shall notify DTSC of field sampling activities either orally or in writing at least seven (7) days in advance.
2. All RCRA-designated groundwater monitoring wells shall be subject to groundwater analyses for constituents found in Appendix IX of Chapter 14, Division 4.5, title 22, of the California Code of Regulations at least once every five years. All wells listed in Table 2 of the Permit are RCRA-designated wells.

PART VI - CORRECTIVE ACTION

1. The Permittee is conducting corrective action at the Facility under the oversight of San Francisco Bay Regional Water Quality Control Board (RWQCB), under Site Cleanup Requirements Order # R2-2004-0032 and any subsequent modifications approved by the RWQCB. Under SB 1082 (Calderon 1993), the RWQCB has been designated as the lead agency overseeing the cleanup of hazardous substance releases in the groundwater at the UTC property, except for the area at the former surface impoundments (0250, 0635, 0706) and Open Burning Facility (0891) where DTSC is the lead for closure and post-closure care.
2. In the event the Permittee identifies an immediate or potential threat to human health and/or the environment, discovers new releases of hazardous waste and/or hazardous constituents, or discovers new Solid Waste Management Units (SWMUs) not previously identified, the Permittee shall notify DTSC orally within 24 hours of discovery and notify DTSC in writing within 10 days of such discovery summarizing the findings including the immediacy and magnitude of any potential threat to human health and/or the environment.
3. DTSC may require the Permittee to conduct corrective action to address any immediate or potential threats to human health and/or the environment or newly identified SWMUs or releases of hazardous waste and/or hazardous constituents. Corrective action will be carried out under either a Corrective Action Consent Agreement or Corrective Action Enforcement Order pursuant to California Health and Safety Code, Section 25187.

PART VII. SCHEDULE OF COMPLIANCE

1. DTSC is the lead agency in overseeing closure and post-closure of the three surface impoundments. DTSC is working in coordination with the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB) and its Site Cleanup Requirements for this facility as promulgated in Order No. R2-2004-0032, or the most recent Order approved by the RWQCB. In order to assure the consistency of this Permit with the applicable Site Cleanup Requirements issued by the RWQCB and Health and Safety Code section 25204.5 DTSC hereby adopts the compliance schedule contained in Order No. R2-2004-0032, or the most recent Order approved by RWQCB. Remediation operations shall continue until cleanup target levels, as specified by DTSC or contained in the RWQCB Order for identified contaminants, have been achieved. Current target cleanup levels are listed in Table 1 of the Permit.
2. The facility shall sample all monitoring wells as prescribed in Table 2 of the Permit. An annual groundwater monitoring report shall be submitted to DTSC by March 1 for each year covering results from the previous calendar year. (see Part V.2).
3. Maximum groundwater and surface water contamination levels determined to be acceptable for residential use are listed in the Site Cleanup Requirements (SCR) Order # R2-2004-0032 issued by the RWQCB. In addition, they are presented in Table 1 of the Permit. When these levels are achieved as a result of ongoing remediation measures, and continue to be achieved for three consecutive years, restrictions currently in place on the property through deed restrictions and/or land use covenants prohibiting various activities such as use of the water for agricultural or drinking water use may be removed with DTSC and RWQCB approval if appropriate (see Section III.4(f) of this Permit).

Figure 1 - Site Location Map



Figure 2 - Unit Location Map

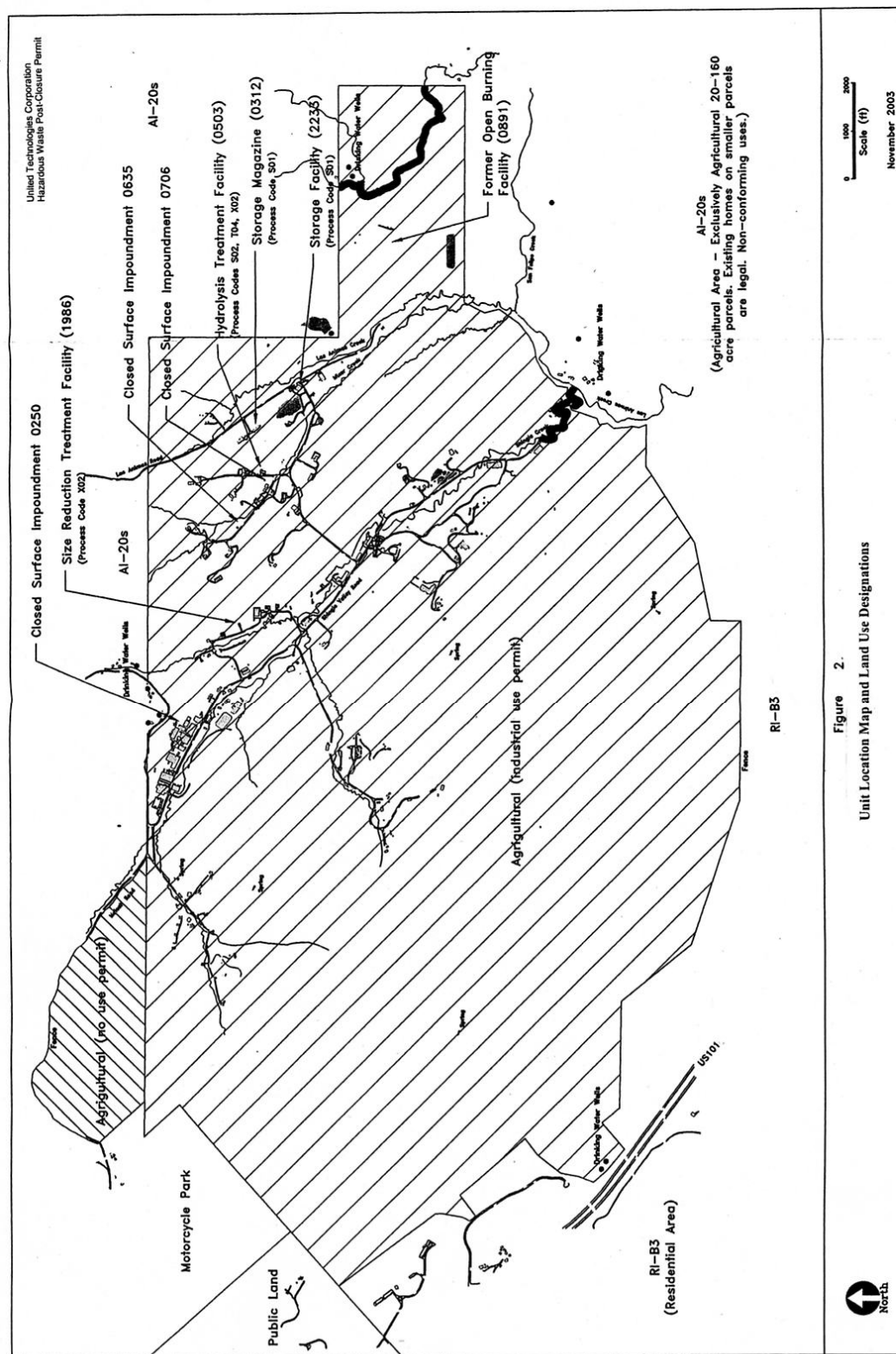


Table 1
Groundwater / Surface Water Cleanup Goals

Chemical	Groundwater / Surface Water Cleanup Goal (µg/L) ^a	Chemical	Groundwater / Surface Water Cleanup Goal (µg/L) ^a
Acetone	700		
Benzene	1	Methylene chloride (Dichloromethane)	5
Chlorobenzene	50 (25 for surface water ^b)	Tetrachloroethene (PCE)	5
Chloroform	100	Perchlorate	6 ^c
Carbon tetrachloride	0.5	Phenol	4,200 (1,300 for surface water ^b)
1,1-Dichloroethene	6	Polychlorinated biphenyls (PCBs)	0.5
1,1-Dichloroethane	5	TPH-diesel	1,000 (200 for surface water ^b)
<i>cis</i> -1,2-Dichloroethene	6	Trichloroethene (TCE)	5
1,2-Dichloroethane	0.5	1,1,1-Trichloroethane (TCA)	200 (60 for surface water ^b)
1,4-Dioxane	3	Toluene	150
Freon 11	150	Vinyl chloride	0.5
Freon 113	1,200	Xylenes	1,750 (13 for surface water ^b)

ug/kg = microgram per kilogram, or parts per billion

^a Groundwater cleanup standards are set at the primary Maximum Contaminant Level (MCL) or drinking water standard for each chemical. For chemicals that do not have an established MCL, the State of California provisional action level or Public Health Goal (PHG) is used as the cleanup standard.

^b For most chemicals, the surface water cleanup standards are the same as for groundwater. To protect aquatic life, surface water cleanup standards for chlorobenzene, phenol, 1,1,1-TCA, xylenes, and TPH-diesel are set lower than drinking water standards. The surface water standard for these chemicals also applies to groundwater within 75 feet of surface water bodies.

^c Cal/EPA issued a Public Health Goal of 6 ug/L for perchlorate in March 2004. Cal/EPA will use the PHG to establish an MCL for perchlorate. The groundwater cleanup standard is currently set equal to the PHG. If the MCL differs from the PHG, Water Board staff will consider changing the cleanup standard for perchlorate to the MCL.

pathway.

Table 2
RCRA Post-Closure Groundwater Monitoring Plan
(Frequencies and Test Methods)

RCRA Unit	RCRA Well ID	Contaminant	Frequency	Test Method
0250	18P-01R*	Perchlorate	6 MO	314.0
	18P-01R*	17 CAM Metals	A	6010
	18P-01R*	VOCs	6 MO	8260
	18P-01R*	Total Cyanides	A	9010
	18P-02	Perchlorate	6 MO	314.0
	18P-02	17 CAM Metals	A	6010
	18P-02	VOCs	6 MO	8260
	18P-02	Total Cyanides	A	9010
	AI-06	Perchlorate	6 MO	314.0
	AI-06	17 CAM Metals	A	6010
	AI-06	VOCs	6 MO	8260
	AI-06	Total Cyanides	A	9010
0635	20C-13	Perchlorate	6 MO	314.0
	20C-13	OC Pesticides	A	8081A
	20C-13	VOCs	6 MO	8260
	20C-14*	Perchlorate	6 MO	314.0
	20C-14*	OC Pesticides	A	8081A
	20C-14*	VOCs	6 MO	8260
	20C-17	Perchlorate	6 MO	314.0
	20C-17	OC Pesticides	A	8081A
	20C-17	VOCs	6 MO	8260
0706	20C-25	Perchlorate	6 MO	314.0
	20C-25	VOCs	6 MO	8260
	20C-35*	Perchlorate	6 MO	314.0
	20C-35*	VOCs	6 MO	8260
	20G-15	Perchlorate	6 MO	314.0
	20G-15	VOCs	6 MO	8260

*Point of Compliance (POC) well

6 MO: Monitoring parameters sampled every 6 months

A: Sampled once each year

Note: All wells will be tested at least once every five years for all constituents listed in Appendix IX, Chapter 14, Title 22, California Code of Regulations.

